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THE
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Poetry.

THE POOR MAN'S DOINGS.

BY MRS. MARY E. HEWITT.

Oh, what were the pride of the rich man's gold
Or the worth of each untilled rood,
Were it not for the rough, hard-handed poor
Who toil for their daily food.

Whatever of labor the rich man needs,
From the poor man's hand must come—
From the cradle rare of the new-born heir,
To the coffin and sculptured tomb.

The poor man swayeth the settler's axe,
Till the forests far retire;
And the city springs on its phœnix wings
O'er the brands of the log-house fire.

He bandeth the earth with iron roads,
And the steam-fed courser guides;
And fearlessly he drives the steed of the sea
Wherever the rich man rides.

He tills the plain till the ripened grain
Is safe in the garner stored,
And with rifle and snare he hunteth the fare
That smokes on the rich man's board.

He twineth the costly robes of pride,
And reareth the stately dome;
And cleaves from the clod the marble god
That stands in the rich man's home.

The gauds of beauty, the work of art,
Whatever your wealth hath bought—
Nay—the very gold that your coffers hold
The poor man's hand hath wrought.

Then health to the rude and thrifty poor,
And honor them evermore;
They 'mid the turmoil, earn the wages of toil,
As your fathers did before.

And think the reward of labor is health,
That wealth is industry's friend,
That change is earth'slaw, and soon the see-saw
May rise at the poor man's end.

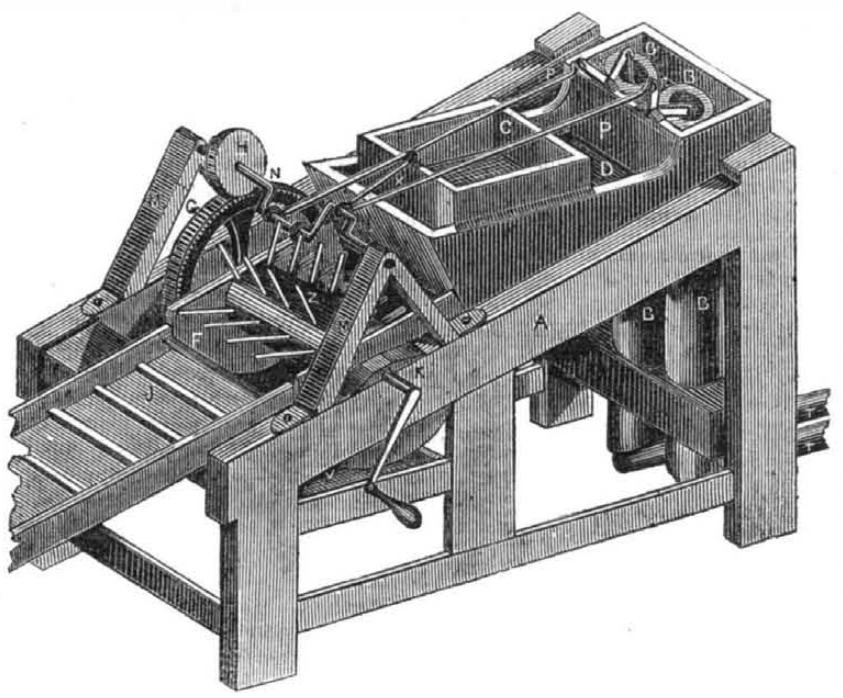
THE TRUE ARISTOCRATS.

Who are the Nobles of the earth—
The true Aristocrats,—
Who need not bow their heads to Lords,
Nor doff to Kings their hats?
Who are they, but the Men of Toil,
The mighty and the free,
Whose hearts and hands subdue the earth,
And compass all the sea!

Who are they, but the Men of Toil
Who cleave the forest down,
And plant amid the wilderness
The hamlet and the town,
Who fight the battles, bear the scars,
And give the world its crown
Of name, and fame, and history,
And pomp of old renown!

These claim no gaud of heraldry,
And scorn the knighting rod;
Their coats of arms are noble deeds;
Their peerage is from God!
They take not from ancestral graves
The glory of their name,
But win, as erst their fathers won,
The laurel wreath of Fame.

IMPROVED GOLD WASHER.



This is a Gold Washer invented by Mr. William H. Danforth, of Salem, Massachusetts, who has taken measures to secure a patent.

A, is a strong frame. B B, are the cylinders of two pumps which project downwards and communicate with a stream or river by the suction pipes T T. The pistons of the pumps are attached to angular vibrating heads R R, which are secured by pivots to the upper edge of the pump box and are operated by the reciprocating levers P P. These reciprocating levers are attached to cranks N N, on a shaft raised upon the arch head M M. The shaft of the cranks receives motion by the pinion H, meshing into the large cog wheel G. The cog wheel G, is placed upon the power or roller shaft Z, driven by a crank K, or by band and pulley from some other power. The coarse deposits are put into the screen C, which receives a shaking motion by the small rod X on the crank N. The finer particles then pass through on to an inclined board D, the lower end of which projects over and into a circular formed trough F. The water is pumped on the inclined table D, and carries the particles into the trough F. The deposits in the trough are agitated thoroughly by the pins on the roller Z and all the lighter particles are there separated from the gold during the agitation and washing and carried over the mouth of the trough on to the inclined table J. This table has transverse slats nailed on it, so as to retain the minutest scales of gold, (of which there are plenty in California,) that may be washed over. When the gold is completely washed, the agitation is arrested and by pulling out a small pin at the side of the trough it is tipped over and the contents tilted into the box V, which has a strong canvass bottom to retain the washed gold and to allow the water to drip through. When this is done, another lot of deposits are placed into the screen C, and the washing operation as described repeated. This machine is very well adapted to be worked on the banks of a river or on a small stream, The whole operation of screening, pumping water and washing the gold is combined in the one machine driven from the main shaft K. A small machine as well as a large one can be built on this principle and either manual or horse power applied to drive it.

Remarkable Clock.

The Charleston Courier contains a notice of a new clock which is soon to be erected in that city: The striking portion of the clock is so arranged that the chiming of the quarters, and striking of the hours, are accomplished by a single movement. The musical portion of the clock is also ingeniously constructed. It plays no less than three tunes, changing at the completion of each, and, when the three are finished, the keys again resume their original position, and commence the tune first played. We understand that four bronze figures are to be cast, which, at certain periods, are to spring forth from separate points of the steeple and return to their places, obedient to the working of the machinery.

Curiosities of Boiling Water.

The higher we ascend, the less the pressure of the atmosphere becomes, and consequently, being to a certain extent removed from its surface, water boils at a much lower temperature than below. Many remarkable facts are dependant on this, for the nutricious principles in many kinds of common animal and vegetable food cannot be extracted at a temperature lower than 212 degrees; therefore, those who live in very elevated regions, such as the plains of Mexico, &c., are deprived of many luxuries which their more fortunate, because less elevated neighbors, are capable of procuring.

Chloroform---Kreosote---Cholera.

The London correspondent of the Home Journal, under date of January 19th, writes that chloroform is used largely in cholera, and with wonderful effect in allaying the spasms. About a drachm is poured on a sponge and which held to the nostrils, the mouth closed in a pocket handkerchief, soon allays the suffering. It is repeated as often as needful. The writer has been present when it has been administered, in the stage of collapse, to pulseless patients and has seen it bring back the pulse; and in other cases, he is sure it has assisted materially in putting a stop to the sinking. To check the vomiting give a drop of kreosote in water, and repeat it as often as may be required. These are two of the chronothermal remedies for cholera.

Southern Railroad Convention.

A Railroad Convention is to be held at Memphis, Tennessee, in the month of July next. The people of Tennessee and Arkansas think the great Continental Road should begin at Memphis as the Mississippi depot, while the Illinoisans and Missourians claim a decided preference for St. Louis as a starting point.

RAILROAD NEWS.

Massachusetts Railroads.

The capital of the Massachusetts Railway Corporations is $50,264,100. Capital paid in $38,749,316. The aggregate cost of the railways is $46,885,991. The aggregate debt of the various corporations is $12,420,201; but they have on hand a surplus of money amounting to $1,349,230.

The length of railways in operation in Massachusetts, including branches, is 1,043 miles,—nearly one-sixth the aggregate length (stated at 6,421 1-4 miles) of all the railways in the United States. The length of double track in Massachusetts is 220 miles. The mean cost per mile of all the finished roads in operation in Massachusetts is $43,781.—The cost of the New York and Erie Railway, when completed to the Lake, according to the recent Report of the Directors, will be only $34,000 per mile. A large portion of the Massachusetts roads terminate in the city of Boston, and their cost is greatly enhanced by the purchase of real property requisite for stations. Compared with the thoroughly built railways in England, most of which have two tracks, the average cost per mile of the Massachusetts is less than one-third.

In England, at the end of 1848, the extent of railways finished and in operation, was 4,420 miles, constructed at a cost of £131,000,000, or $628,000,000, which is about $142,000 per mile. The Reading Railway in Pennsylvania is believed to be the only road in this country which cost near the average of the English lines. The traffic on the English roads in 1848 exceeded $47,000,000; and the net returns were about 4 24-100 per cent on the outlay. The Massachusetts roads in 1848 divided a mean rate of 7 283-1000 per cent upon the money paid in. The expense of of working the English roads is less than fifty per cent of the gross earnings; the Massachusetts roads, a fraction over 54 per cent.

The passenger cars in Massachusetts run at an average rate of 23 1-8 miles per hour; the freight cars 13 1-3 miles. They travel twice as rapidly in England.

Philadelphia and Princeton Railroad.

The Newark Advertiser says that an improvement greatly needed upon the line of railroad to Philadelphia is a double track commencing at Princeton and extending some 4 or 5 miles this side, as far as Kingston—or 10 miles would be better still. The trains which leave Philadelphia and New York at the same hour, both morning and evening, usually intend to pass each other at Princeton, and if one of them happens to be delayed for any cause along the road, the other is obliged to stop there till it comes, or feel its way along at a snail's space, for fear of a collision till they do meet, when one of them is obliged to retrace part of its route till a turn-out affords the opportunity of passing. A double track over this short distance would save the delay and chance of accidents; and we understand that the company is willing to construct it, but it is said that the people of the neighborhood are unwilling to sell them the land on favorable terms. Cannot something be done to effect the object?

A New Railroad in Indiana.

A survey and estimate have just been completed for a railroad from Crawfordsville to Lafayette, a distance of 26½ miles and the line is to be put under contract in the month of May next.

Crawfordsville is about 45 miles to the north-west of Indianapolis, the Capital of the State, and is the seat of Wabash College.—Lafayette is at the head of steamboat navigation on the Wabash river, 310 miles above its junction with the Ohio. This railroad must pay well.

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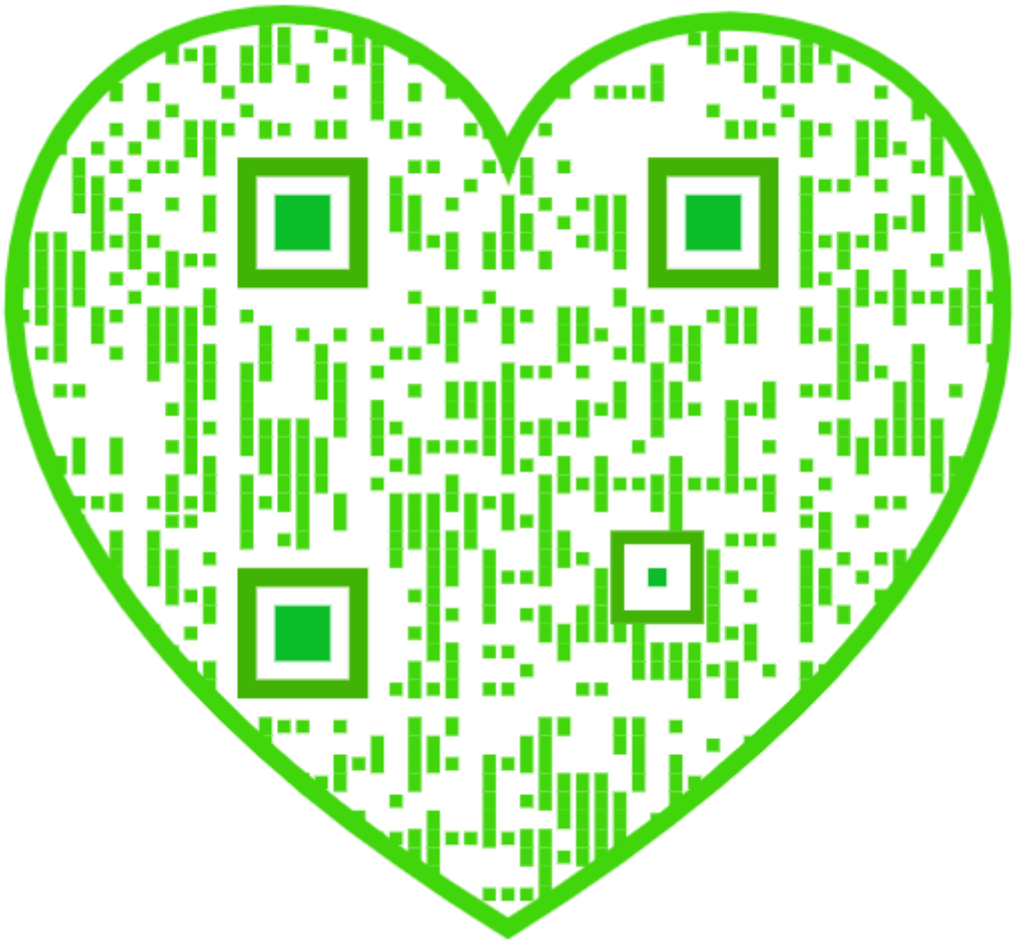

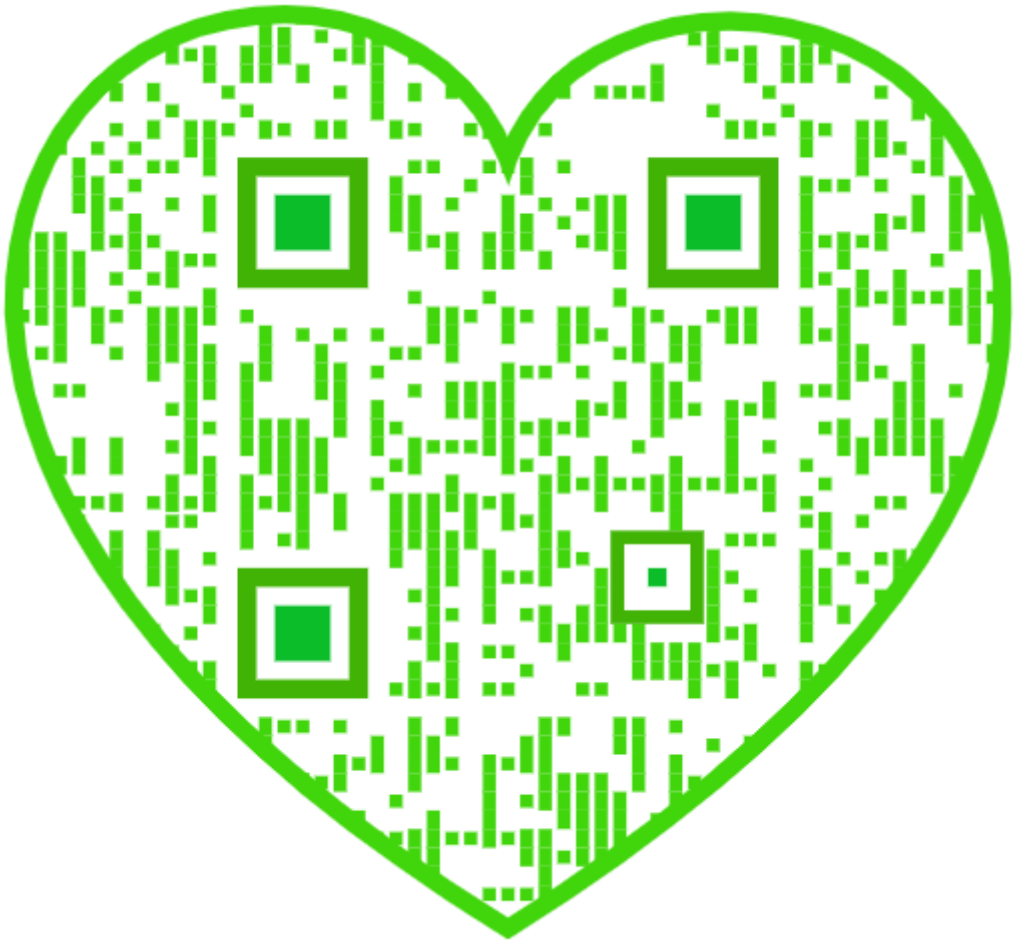

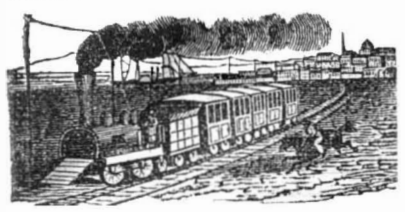

Our Prize Essay Again.

We were in hopes to have had the several Essays with which we have been favored examined, and the prize awarded, on the first of April, but on account of the pressure of other business with us, and having many more applicants for the prize than we expected, we did not arrange with the committee of examiners sufficiently early for them to get through the examination at that time. It perhaps will be well for us at this time, to explain the course which we have pursued in having the different essays examined &c , that those who are not so fortunate as to get the hundred dollars, may be satisfied that the affair has been honorably conducted by us. As each Essay has been received, it has been numbered, and the author's name and residence marked in an index, with a number corresponding with the number of the Essay, placed opposite his name.

After the 1st. inst., which was the time specified to have the Essays examined, the documents were all forwarded to a competent person in a neighboring city, for his perusal, and after he had finished examining, and had sent us the number of the one selected, he forwarded them by our request to another gentleman, with whom we had previously arranged, to make the same examination, and who has since returned to us the papers, with a different number selected from the one chosen by the first gentleman of the Committee. Since the return of the Essays into our hands we have not had an opportunity of conferring with the gentleman to whom the two Essays selected by the first and second parties is to be decided, hence the delay of still another week, before it is possible for us to give the name of the winner, and perhaps two weeks before the state of our columns will permit our publishing the Prize Essay.

We have been surprised at the number of Essays received, and many of them are so well written, and come from such a meritorious class of our laboring mechanics, that we really wish we were able to reward more than one out of the great number, for their industry and practical suggestions.

New York City Elections.

The annual municipal elections in this city took place on the 10th inst., resulting in the election of the Whig Mayor, Mr. Woodhull, by upwards of 4,000 majority. The result shows conclusively, the influence of the independent penny press over the masses. Three days previous to the election it was considered morally certain by all parties that the Democrats would prevail, as they usually do in New York, by a very large majority. At this period, however, the *New York Sun* threw a bomb shell into the Democratic camp which instantly turned the tables in favor of the Whigs. *The Sun* is probably read daily by upwards of three hundred thousand persons; its influence in arranging the elections, or guiding the public mind in all matters, is therefore immense.

Washington Monument.—A Promising Boy.

An orphan boy in this city only 16 years of age, Richard P Resdon, has produced a design for a monument to Washington which has been pronounced by many "to be the most original and grand and appropriate," that has yet been brought before the public. It is not a modified copy of some foreign existing masoleum like some that have figured before the public; for the designer knows nothing about the principles of architecture or perspective drawing; but with the prompting of genius, and a natural taste, he has produced a design which is wonderful in itself and in the boy bespeaks the man. Being a boy of good habits it is to be hoped that he will find some friend that will nurse and cultivate his talents, as he has given evidence of being an honor to his country, and at some future day occupying a niche in the temple of fame.

The Seven Hills, (near Memphis, Tenn.)
March 22, 1849.

Messrs. Munn & Co.—I notice a paragraph going the rounds of the papers, has appeared in the Scientific American, stating "a planter in Tennessee has invented a machine for picking Cotton out of the field, which is intended to gather merely the top bolls, &c." This is a little error—its operation will not be confined to the top bolls alone.

I, in conjunction with Mr. T. Prescott of this vicinity, whom I have taken as a partner—he having taken me in equal partnership with a new Gin of his invention, and which will soon see the light of fame—am the inventor; and in a few days we shall apply for letters patent, when an engraving and full description will, with your sanction, appear in the Scientific American. The coming crops, next Fall, will dispel all incertitude as to its success or failure; until then we shall probably remain in *statu quo*. S. S. Rembert.

Oil of Rhodium for Rats.

It has long been known that the oil of rhodium had a wonderful attraction for rats, and would attract them from their holes. Old rat catchers have taken advantage of this to make part of their trade in decoying them to destruction. The following receipt from the American Agriculturist, is said to be a good one, received from an old rat destroyer, but it has a good deal of a hocus pocus legerdemain appearance about it, nevertheless it is easily tried, and that is the way to test its merits.

Take powdered asafœtida, 2 grains; essential oil of rhodium, 3 drachms; essential oil of lavender, 1 scruple; oil of anise, 1 drachm.

Let the asafœtida first be well triturated with the oil of anise; then add the oil of rhodium, continuing to rub the materials well together with the pestle in the mortar, after which add the oil of lavender, and cork up the mixture in a close bottle until required for use.

The method of applying the compound consists merely in smearing a tame rat with it after mixing a few drops of it with a little flour or starch, or employ the paste thus formed as a bait for the trap. It is stated that a tame white rat besmeared with it, let loose in a vault, has been known to be followed by a half a dozen other rats, which appeared to be enamored by their albino decoy. A trap placed in a cellar, haunted by rats, and left there all night, was filled the next morning with these pests to the number of thirty, and was surrounded by a host of others, that actually could not enter for want of room!

Pocket Tape Measure.

Who would dispense with one of these convenient little articles that had ever possessed one? We should as soon dispense with the use of a pocket knife or a pocket lead pencil as to be deprived the convenience of a pocket tape measure. Friend Ashe, known to many of our readers as an exquisite ornamental painter, has engaged in the manufacture of the above useful article and would be happy to serve any who desire to purchase them either at wholesale or retail. To be had at 133 Fulton street, under Dunlap's Hotel.

Decease of a Man of Science.

The scientific community has met with a loss that will be sensibly felt, in the decease of Professor Downes, of the University College, London. He had acquired a high reputation as a practical chemist, and was well known to the scientific men of the United States by his various essays, and more particularly by his excellent Manual of Chemistry, which has been republished here, and has taken a high stand as a text book in several of our Colleges.

Newfoundland.

The British Banner furnishes the following statement respecting the island of Newfoundland. Its area embraces about 35,000 square miles—being larger than Ireland, and nearly as large as England. The population of the island is about 100,000,—chiefly English, Irish and Scotch or the descendants of these, who are Protestants and Catholics in nearly equal proportions.

No agricultural implement has been discovered on the Isthmus, from Chagres to Panama. Crops, hitherto, 'not worth raising.' Cotton grows spontaneously.

The Iron Business.

The Pittsburg Journal contains the subjoined paragraph, in relation to the iron trade of a portion of Western Pennsylvania:—

"A number of the iron men, from Clarion have arrived, and taken lodgings at the St. Charles, Exchange and other houses. Mr. Shippen, one of the most extensive manufacturers of pig metal in that section, informs us that the quantity for market this spring is much less than was anticipated last fall. The winter has been severe—boats scarce, on account of the heavy floods in February, and not as much manufactured in proportion to the number of furnaces as usual. Several metal boats arrived, and landed at the Allegheny wharf last night. They contain on an average seventy-five or eighty tons."

Maple Suger at the West.

Few persons are aware of the large amount of this article that is yearly manufactured at the West. A late number of the Toronto Farmer says that the northern portions of the Canada settlements, will produce the greatest quantities of sugar from the maple. The forests on the south shore of Lake Huron, as well as those on numerous islands on that extensive sheet of water contain a very large quantity of the largest size sugar maple; and in that region of country, the sugar season lasts one-third longer than it does on the borders of lakes Ontario and Erie. A merchant who trades extensively in the article of maple sugar, manufactured by the Indians, has repeatedly assured us, that if proper encouragement was given to the business the sugar manufactured in that region, by the Indians and white population, might be made to yield an annual return of upwards of £100,000. On the great Manitou Island, even as unfavorable as was last year for the business, the aborigines made and sold upwards of 100,000 pounds of sugar; a considerable portion of which was bought by Michigan merchants, in exchange for woollen and cotton goods.

Church in San Francisco.

Rev. T. Dwight Hunt arrived at San Francisco from the Hawaiani Islands in October last, when a meeting of those favorable to the establishment of a chaplaincy was called, and about $2,000 subscribed for its support. Mr. Hunt, upon being requested to perform the duties of that office, at once accepted, and his efforts have been attended with success. A Sabbath School has been organized, and a conference meeting established by him.

A Hundred and odd Years ago.

In 1742, we perceive by the manual of the Common Council of New-York, extracts of which have been recently published, that burning to death of negroes for crime was a common practice. The sentence of one of them reads, the prisoner must "be burned by a slow fire, that he may continue in torment for eight or ten hours, and continue burning on said fire until he be dead and consumed to ashes." These are the ancestors that we laud so much.

Asking the Leave to Gape.

The New-Haven Register tells this good one. Friday night last, owing to an accident the Springfield train did not reach Hartford until late, and in consequence, those awaiting its arrival at the station, had a tedious time of it. Among them was a demure looking yankee, inclined to have a nap—fixing his feet on the upper round of his chair, he leaned back against the wall, and "went at it." He was not fairly under way, however, when he was tapped on the hat by one of the officials, and told that "setting up and sleeping was not allowed in the Depot." "Eh!" ejaculated the astonished sleeper, "no sitting up and sleeping!" "No sir—agin the rules of the company," said the official. "Well, I declare," replied the other "this is a mean place! Won't you ask the company if I mayn't gape?" following up his query with a "stretcher" that put the officious official to instant flight.

The Lowell Courier says that on the first of the present month the wages of the operatives upon the corporations of that city, were raised from twenty to twenty five per cent—having been restored to what they were six months ago.

Delaware and Hudson Canal Company.

We are informed that the Canal will be opened for navigation on the 20th proximo.—The coal cars commenced regular trips last week. It is stated by the Honesdale Democrat that the Company's Wire Suspension Aqueduct across the Delaware is finished.—Henceforward there will be no stoppage of canal navigation on account of high water. This aqueduct is the only structure of the kind in America, and perhaps in the world, and is indeed a great achievement. The Company design sending to market this season an increased quantity of coal.

A Year's Immigration.

In the year ending on the 1st of April 1849, there landed at this port, New York, two hundred and four thousand six hundred and thirty six immigrants.

Fulton's Steamboat.

The Rev. Dean of Ripon, in a recent lecture before the Mechanics' Institute in Leeds, stated that about forty years ago, he happened to be in New York, and was invited by General Moreau to make a short trip with him on board a "ship to go by hot water." It was the first vessel of Fulton.

Manchester, New Hampshire.

This place has now a population of 15,000. Eight years ago there was but a few houses in it. It is like Lowell a manufacturing city, and the ground on which it is built was formerly owned by Judge Stark a grandson of the celebrated republican general.

Gooseberries.

This is an excellent fruit, but very difficult to raise. They grow well until they begin to ripen when, as a general thing, they mildew and perish.

As all our garden gooseberries are from imported plants, it has been suggested that if our native gooseberry was cultivated, that it would not mildew. The grafting of the gooseberry on the yellow flowering currant has been successful also, to prevent mildews.

The Free School Act.

A bill amending the Free School law of this State has been passed, declaring that the law shall go into effect immediately after being ratified by the People.

When butter is to be made, if a lump of old butter be put into the cream, butter will come from much less churning. When soap is to be made, if a little old soap be put into the ley and grease, the soap will be made with considerable less boiling.

The Hon. H. V. Johnson, of Georgia, in the course of a debate in the United States Senate on the 28th of February, stated the estimated valuation of property in slaves at the astonishing sum of $1,000,000,000.

There are 1500 vagrant children in Boston. Out of 1066 cases ascertained 963 were of foreign parentage and 103 of American. This speaks volumes for New England parental discipline.

Mr. John Duncan, the celebrated African traveller, is again about to undertake a journey into the unexplored wilds of Africa, back of the kingdom of Dahomy.

We have seen it stated that an excellent remedy for hoarseness, coughs colds, and cases of incipient consumption, is horse-radish, cut into small pieces and chewed in the mouth.

Donizetti, the musical composer, was the son of a Scotch farmer named Donald Izett, who joined the army, was captured by General La Hoche and remained with him as a secretary. He married an Italian lady, and and his name was changed to Donizetti. It is said that some of the finest airs in Don Pasquale, and Lucia are of Scotch origin, and thus accounted for.

It is said 2,000 persons bound for the mines will be left at Panama, on the 1st of April, unprovided for. The California Steamer had only enough coal to reach San Francisco, and can get none there. The Convention for forming a Provisional Government to meet May 1st.

The fare from New York to Albany has been reduced on some of the boats to 25 cents—distance 160 miles.

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For the Scientific American.

The Mineralogist.---The description and locality of every important Mineral in the United States.

(*Continued.*)

DOLOMITE.

This mineral is a granular magnesian carbonate of lime. It occurs amorphous, often of a slaty structure. Color, white, with a tinge of gray or yellow. Translucent on the edges; lustre, glimmering. Phosphoresces when thrown on a hot iron. Under the blow pipe it phosphoresces strongly, turns opaque, and falls into grains. Feebly effervesces with acids. Found in Williamstown, Great Barrington, Sheffield, Pittsfield, Stockbridge and Adams, Mass.; Smithfield, R I.; Washington, Litchfield and Milford Hills, Ct.; near New York City.

EPIDOTE.

Occurs in grains, masses and crystals of a yellowish, bluish or blackish green color, vitreous lustre and partial transparency. Scratches glass. Specific gravity 3.45 Turns black when heated: with borax, slowly fusible.—Found in Franconia, N. H.; Chester and Middlebury, Vt.; near Brighton, Boston, Dedham, and Newbury, Mass.; Westchester, Highlands and near Lake George and New York city, N. Y.; in Milford, Saybrook, Litchfield, Haddam and Tolland, Ct.; Cumberland, R. I.; near Baltimore, Md.; and Blue Ridge, Va.

FELDSPATH, COMPACT.

Occurs amorphous, crystallized, and disseminated, of white, bluish white, greenish, reddish, brown and flesh red colors, which are often in spots or stripes. It has a glimmering lustre, and is translucent on the edges. Fuses into a white porous enamel. Specific gravity from 2.60 to 2.74. Found in Malden, Milton, and Dorchester, Mass; and in the Fishkill Mountains, N. Y. Boston also furnishes it.

FELDSPATH, GREEN (AMAZON STONE.)

Occurs massive and crystallized, of an apple green color, and shining lustre. Scratches glass. Found in Topsham, Me.; Cow Bay, N. Y.; Baltimore, Md.

FELDSPATH, LABRADOR.

Occurs massive, of a smoke-gray color, and spotted with opalescent or iridescent, variable tints, consisting of blue, fiery red, brown. green, yellow, or orange, according to the direction in which the light falls upon it.—Found at Amity, and near Lake Champlain, N. Y.; also, near Pompton Hills, N. J.

FERRO-MAGNESIAN CARBONATE OF LIME. (PEARL SPAR.)

Occurs crystallized, and in laminated masses, of a white, greyish, yellowish, or reddish white color, and pearly lustre Translucent. Specific gravity 2.5. Violently decripitates when heated and turns brown or dark gray; with borax, fuses. Soluble slowly in aquafortis. Found in metallic mines, at Charlestown and Leverett, Mass.; Leicester, Bethlehem, and Clinton, N Y.; near Lancaster, Pa.

FIBROLITE.

Occurs in minute fibres, closely united, and crossing each other. Color, white, or whitish gray. Harder than quartz; becomes electric by friction. Infusible. When two pieces are rubbed together, it phosphoresces. Specific gravity 3 2. It is found in Saybrook, Ct.; and Cummington, Mass.

FLUATE OF LIME (FLUOR SPAR.)

The crystallized variety is the most beautiful and important. It has a shining vitreous lustre, and a purple, blue, red, green, yellow, white, or gray color, and limpid and transparent. Specific gravity 3.10. With oil of vitriol it emits fluoric acid gas which corrodes glass. Fuses into an opaque mass; with borax into a transparent glass. Localities:—White Mountains. N. H.; Thetford, Vt.; Southampton lead mine, Mass.; Amity, and near Saratoga Spa, N. Y.; near Hamburg and Franklin furnace, N. J.; west side of Blue Ridge, Md.; Shenandoah Co. and Shepardstown, Va.; Smith Co. Tenn.; Peter's Cr., 17 miles from Shawnetown, Fork of Grand Pierre Cr., 27 miles from same place, Illinois. It is usually found in metallic veins.

FULLER'S EARTH.

A variety of clay, compact, but friable, uncteous to the touch, and of various colors, usually with a shade of green. Becomes translucent when thrown into water. Specific gravity 1.7 to 2. Fusible into a porous slag; turns white when heated. Found in Newfield, Me., and Kent, Ct.

GARNET.

Occurs in masses and 12 sided crystals, of a reddish color and glistening lustre. Brittle; fuses into a black or green glass. Specific gravity 3.59 to 3.76. Found at Topsham, and Brunswick, Me.; Hanover, N. H.; N. Fane, Newbury, Plainfield, Bedford, and Cummington, Vt.; Chatham, Haddam, Bolton, Washington, Munroe, and Lyme, Ct.; Franklin Furnace, N. J.; Carlisle, Mass; Barren Hills Pa.; and in the interior of North Carolina, in abundance.

GADOLINITE.

Usually found massive of a greenish or a brownish black color, splendent lustre, and conchoidal fracture. Scratches glass; slightly translucent. In aquafortis it loses its color and is converted into a jelly. Swells or expands by heat. Occurs in Bolton, Mass.

GIBBSITE.

Occurs in regular icicle form masses, from 1 to 3 inches in length and one in diameter, having a fibrous structure, and a dirty white, greenish white, or grayish color. Easily powdered; translucent on the edges. Infusible, but turns white. Does not effervesce with acids. Found at Pittsfield, and Richmond in an iron mine, Mass.

Indian Method of Twisting Gun Barrels.

The gun-barrels made at Bombay in imitation of those of Damascus, so much valued by the Orientals for the beauty of their twist, are manufactured from iron hoops obtained from European casks, mostly British. The more these are corroded by rust, the better they are preferred by the workmen; should there be any deficiency of this necessary oxidation, they are regularly exposed to moisture until they are sufficiently prepared for welding. Being cut into lengths of about twelve inches, they are formed into a pile an inch and a half high, laying the edges straight so as not to overlap each other: a larger piece is then so fitted as to return over each end, and hold the whole together in the fire. This pile is then heated, and drawn out into a bar of about one inch wide and one-third of an inch thick; it is doubled up in three or more lengths, and again drawn out as before; and this operation is repeated generally to the third or fourth time, according to the degree of fineness required. The bar is then to be heated about one-third of its length at a time, and, being strurk on the edge, is flattened out the contrary way to that of the stratification. This part of the operation brings the wire or vein outwards upon the strap. The barrel is then forged in the usual way, but much more jumping is used than in the English method, in order to render the twist finer. The most careful workmen always make a practice of covering the part exposed to the fire with a lute composed of mud, clay, and the dung of cows or horses, in order to guard against any unnecessary oxidation of the metal. When the barrel is complete, the twist is raised by laying the barrel from one to five days either in vinegar or a solution of the sulphate of iron, until the twist is raised: this process is called the wire-twist. To produce the curl, the bars or straps are drawn out into bars about three-quarters of an inch square, and twisted some to the right and others to the left, one of each sort is then welded together, doubled up, and drawn out as before; and upon the experience of the workman, any intricacy of twist is produced by this drawing out, doubling, and twisting. Sometimes, to save trouble and economize iron thus prepared, the artist will rough-file an Engliah barrel, weld a strap of Damascus iron spirally round it, or several are laid longitudinally, and welded on. A native artist never works with coal under any consideration. Charcoal from light wood forms his only fuel. In making the sword-blades, there are several used; some make a pile of alternate layers of soft hardened steel, with powdered cast iron mixed with borax sprinkled between each layer. These are drawn out to one-third more than the length of the intended blade, doubled up, heated, twisted, and re-forged several times; the twist is brought up in the same way as that in the gun-barrels. Some swords are forged out of two broad plates of steel thus prepared, with a narrow plate of good iron welded between them, leaving a solid steel for the edge of considerable depth. Others prefer making them of one plate of steel, with a lamina of iron on each side of it to give strength and toughness. Swords of this description were tempered by the following compound with considerable effect: the blade was covered with a paste formed of equal parts of barilla, powdered egg-shells, borax, salt and crude soda, heated to a moderate red heat; and just as the red is changing to a black heat, quench it in spring water. From the information of a workman it appears, Damascus obtains all its steel from the upper part or Decan, where it is called the fonlode hind, or Indian's steel, of which there are great quantities, but little or no demand for it. The damasque, or joar, is natural to this steel, and is raised by immersing it in an acid solution.

Patent Railway Axles---Interesting Case in extending a Patent.

Last month before the Judicial Committee of the British Privy Council, there being on bench Lord Langdale, Lord Brougham, Dr. Lushington and Mr. Pemberton Leigh, Mr. Harden and others presented a petition for the extension of letters patent for the improved Railway axles.

The patent was obtained in April, 1835, and Mr. Hardy, with limited means, attempted to carry it out, but after losing all his property in the attempt, assigned it, a few years ago, to Messrs. Geach & Walker. The invention consisted in fashioning pieces of iron in a rolling mill, so that, when combined, a perfectly cylindrical form was effected. In the old porcess the iron was repeatedly cooled and heated during the welding; and the result was that the iron became very much deteriorated in character, and was rendered brittle, while, by the patented method the iron preserved its fibrous character and consequently its tenacity. In illustration of the great superiority of the patent axles, two of them were exhibited; one has sustained the shock of an express train, weighing upwards of one hundred tons, and moving at the speed of 60 miles an hour; the other had been struck by a train, in a similar manner, on the Eastern Counties. Although both these axles were considerably bent by the immense force of the blows to which they had been subjected, the skin of the iron, as it was termed, was not touched, and they did not exhibit the slightest crack.

Mr. R. Stephenson, M. P., was examined in support of the petition. He said he was consulting engineer to nearly all the narrow-guage lines—that a good many hundred miles of railway were under his superintendence, including the London and North Western and the North Midland. His attention was first called to the patent axles shortly after the opening of the North Midland in 1841. He had subjected a great many axles, of various manufactures, to some very severe trials—the patent axles among others—by twisting them and letting heavy weights fall upon them, the aim of the experiments being to subject them to the same shocks and strains that they would be liable in case of accident. He made these experiments in consequence of a serious accident that took place on the North Midland, and was satisfied by them of a great superiority of the patent axles. Witness then described the old and the patent process of manufacture, the former rendering the iron crystaline in its structure and exceeding brittle, while by the latter the fibrous character of the iron was preserved, by which it was rendered extremely tenacious. A section of a patent axle was put into the witness' hand, which, he said, clearly indicated the fibrous structure of the mass of the very centre of the axle. By the old method the outside, and to some depth, was fibrous, and the interior crystalline. It was hardly possible to appreciate the value of the invention, in the safety it conferred upon life and property—in the prevention of accidents upon railways. He knew of no other axle at all equal to it. After the occurrence of the accident to which he had referred, he broke upwards of fifty of the axles of the old manufacture, and was astonished to find that they were uniformly crystalline in their texture, with one or two exceptions. They were of course all exceeding brittle, so much so that he ordered them to be taken off the line as quickly as possible. The patent axles are now extensively, but he could not say exclusively used on the North Midland. The cost of manufacture might be somewhat more than the old method, and as the patent axles were sold at a lower price than the old manufactures, the proprietors must have obtained much less profit. The price, however, was comparatively no object. He had recommended that the patent axles should be adopted in all the contracts he had had for the last three years. If his advice was followed there ought to be no other axles used. With the exception of two or three, all the axles of the old manufacture that he tested, amounting to fifty or sixty, were unsafe to use. An accident to a luggage train might entail one to a passenger train, by blocking up the line. The Low Moor and Bowling Company's axles always had a high standing in the market, from the character of the iron, and they still stand high, putting out of question the principle of manufacture.

Lord Brougham and Lord Langdale expressed themselves perfectly satisfied with the evidence they had heard. It was quite conclusive.

Mr. Hardy the patentee, in reply to a question by Lord Brougham, stated that he had given the matter as much publicity as possible, but his means were limited. He found it extremely dificult to induce the railway companies even to test his axles. It was owing to the energy and enterprise of the present proprietors that they had been tested, and then so generally adopted.

Mr. Welsby, on behalf of the Attorney-General, having stated that he had no objection to urge to the prayer of the petition, the room was cleared, and on re-admission,

Lord Brougham said the judges had unanimously agreed to recommend to Her Majesty to grant an extension of the patent for five years, subject to certain conditions, viz: that Mr. Hardy, the patentee, should secure one half of the profits and that the proprietors should give an undertaking that the price of the axles should not be increased to the public, but that it should be entirely regulated by the rise and fall of the price of iron in the market.

Thrift of the Yankee.

In perfectly good humor, the Tuscaloosa Monitor, of 11th inst., has given the following pungent and inimitable sketch:

A mountain of granite appears rather a tough subject to deal with, yet a Yankee will burrow in its bowels, and lo! the granite becomes gold in the vaults of the Commonwealth Bank in Boston. A pond of ice presents a cheerless and chilly prospect to the eye, but the Yankee, nothing daunted, will heave up its crystal masses, and straightway the ice glitters in diamonds upon the bosom of his rosy-cheeked spouse. Wherever the Yankee layeth down his hand, gold springeth. Into what soil soever be thrusteth his spade, gold sprouteth therefrom. In the dim twilight, by his chimney corner, he sitteth meditating, and thoughts chase one another through the brain, which thoughts are gold. Various they are, it may be, in form and seeming. One is but a grid-iron, another a baby-jumper, and a third a steam-engine, but he writeth them all down in the patent office at Washington, and then putteth them in his pocket in good golden eagles from the mint at Philadelphia.

But your genuine Yankee coineth not merely his own sagacious conceits; the follies, the fears and the errors of others, are moreover gold to him. He fabricateth mermaids and sea-serpents, and locketh up in his iron chest heaps of golden credulity. He manufactureth a pill of chalk and wheaten bread, which he warranteth to cure asthma, hydrocephalus, epilepsy and yellow fever, and presently buildeth him a great house on the banks of the Hudson. When a sudden delirium seizeth all the world, prompting them to emigrate in floods to nowhere, he quietly mustereth his fleets of transports for that destination, or buildeth a railroad in that direction regardless of what is at the other end, and putteth the passage money in his pocket. He erecteth to himself no castles in the air, but he diligently aideth his neighbor to build the same, and out of the proceeds grow up to him presently castles upon the earth. Such is the modern Midas—the Midas without the long ears—the cool acute, sagacious, calculating Yankee.

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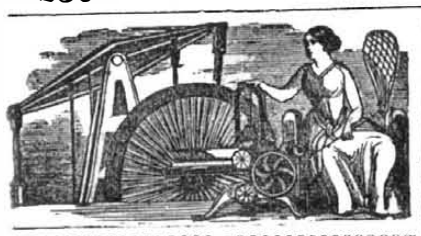


New Inventions.

Improved Portable air Heating Stove.

Mr. R. Sheppard of No. 347 Pearl st. this city, has made a very desirable improvement on a portable stove for parlors, halls, steamboats and Railroad cars. The stove is made of an ornamental form like our common pyramid stoves, but it has a fire grate on both sides, and a hot air chamber suspended between the two grates, receiving the heat all around it, while it looks just like the back plate of the stove. The cold air is admitted through a vertical tube extending down through the bottom communicating with the atmosphere in the room, and the hot air is carried along and distributed through one or more apartments by lateral pipes. The smoke pipe passes straight up. Our common heating stoves only radiate their heat from the stove and the smoke pipe, this stove radiates its heat by the hot air pipes. The improvement is self evident and with the fire on both sides, it must be a cheerful stove. Measures have been taken by Mr. Sheppard to secure a patent for the improvement.

Ingenuity in the Manufacture of Iron.

Mr. Lorenzo Sibert of Woodstock, Shenandoah Co. Va., has made some valuable improvements in the manufacture of malleable iron which is said to reduce the cost of manufacturing Blooms 40 per cent below any other process. At the furnace of Dr. Hale a few miles from Kanawha, Va., Mr. Sibert has his furnace in operation and as it is placed on a lower level than the coal, he has erected a rope railway to carry the coal to the furnace, dump its load and return in a few seconds. He has a span of ropes, nearly 700 feet in length, starting from the coal bank at an elevation of more than 200 feet on the mountain, and running to the furnace door. By these ropes a car load of coal comes down, empties itself and returns an empty car in less than half a minute.

Improved Tilting Wagon.

Mr. William Start, of Smyrna, Kent Co., Delaware, has recently secured a patent for a very valuable improvement in tilting wagons, which should arrest attention. The improvement consists in arranging the body of the wagon that it may be run back on friction rollers until its centre of gravity be brought over the axle tree of the hind wheels, when it is tilted to discharge its load. Springs are placed in a position to prevent sudden concussion when the box of the wagon is turned down.

New Fire Escape.

Messrs. Huttman and Koch Kornelia, have deposited in the Franklin Institute of Philadelphia, a beautiful model of a new Fire Escape. This model, although only about two feet long, can be altered to 12 feet. By making the carriage 12 feet long by 7 wide, it can be elevated 50 feet, and afford an easy escape from the window of the upper stories of the burning building. The mode of descent is not by a mere ladder, but is in the form of a regular stairway, flights of steps, with banisters and all. On the top is a platform, with a railing on all sides, having a moveable landing, which can be extended from either side, so as to rest upon the window sill, and allow a passage from the house to the platform.

New Fire Annihilator.

The London papers say that a Mr. Phillips proposes to subdue flame by effectually preventing the aceess of impure air. The object of the Fire Annihilator is to diffuse through the atmosphere (already vitiated by the combustion) of an apartment on fire, a quantity of carbonic gas and steam, and thus render the continuance of flame impossible. These gases and vapors are generated in a portable apparatus, which when intended for the protection of private dwellings, weighs from twenty to thirty pounds; and the construction is such that the æriform fluids can be evolved in less than three seconds on touching a spring.

Hovey's Straw Cutter.

We present three views of the cutters and principles of cutting embraced in the Straw Cutter of William Hovey, Esq. of Worcester, Mass. A perspective of his excellent Straw Cutter was published in number 10 of vol. 2 Scientific American, but as the principle upon which this Cutter acts, has been recently litigated and established as different from all others, we present that principle of the invention to make it clear as a sunbeam.

Fig 1.

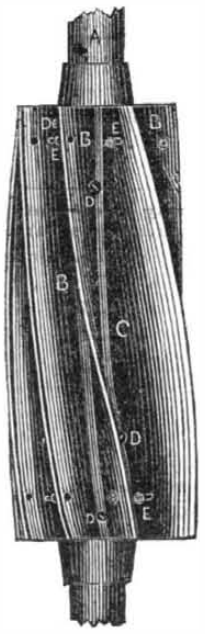


Fig. 1, is a view of the cylinder with its spiral flanges and one knife C, on it. Fig. 2 is a view of the knife, and fig. 3 an end view, showing the knife cutting on the cylinder F.

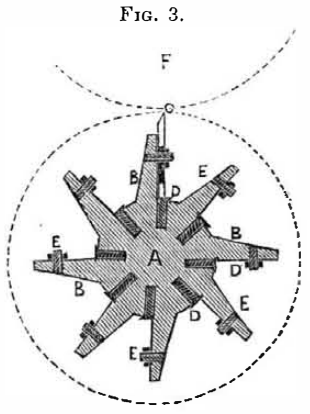
A, is the shaft of the cylinder. C, is the knife. This machine is beautifully contrived to actuate the knives, and to take them out and set them in, so as to sharpen them when required. Each knife has a nut slot made in it, and which slides down over a set screw E, which is stationary near the upper edge of the flange B. The knife C, is made firm by screwing up the nut. It may happen that a chip may be broken out of a knife and when it is ground down it would not be so deep in the cylinder as the other knife. In that case, the ground knife would be of a less perpendicular length than the rest, and would not cut on the cylinder. This evil is ingeniously obviated by the vertical set screws D, which are permanent in the cylinder of the spiral, and which, by elevating them by the driver, will set the knife C to form the desired radial line on the cylinder. A knife may be formed with slots like fig. 2, but the slots in fig. 1

Fig. 2.

suit us best—yet they work in the same manner constructed either way.

Fig. 3 shows the manner fully by which the knives are secured in the cylinder and the way they are set, and how they can be changed as desired. It also shows this principle, so well known to scientific mechanics, viz. "a true radial spiral of whatever pitch or angle has its plane at all times perpendicular to the axis round which it winds, and at all times when it comes in contact with a cylindrical surface of whatever diameter, it will point directly to, and the pressure will be in perpendicular lines to the centre of the cylinder's axis," exactly as represented by fig. 3

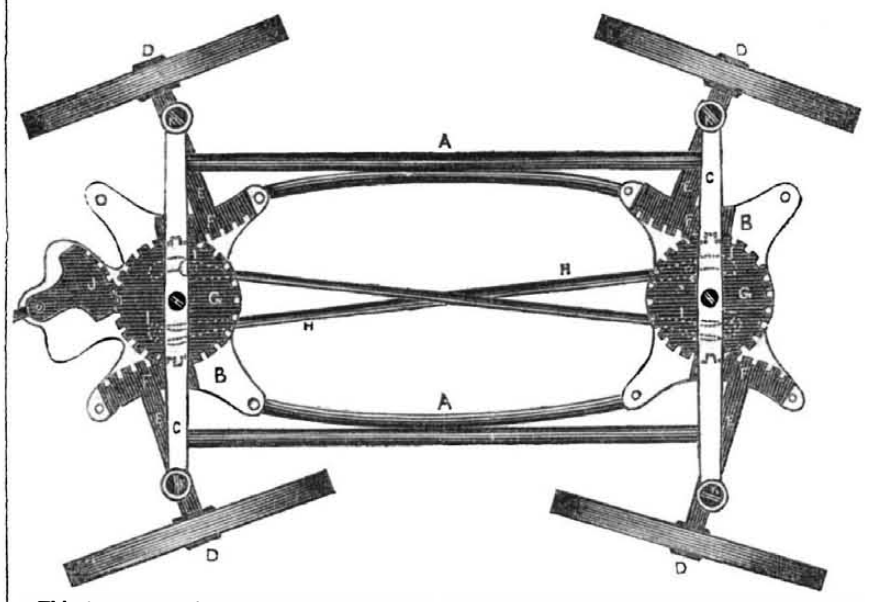
Fig. 3.



Radial spiral knives require less power and are less subject to breakage, and are therefore easier kept in repair than straight diagonal knives cutting on a cylinder. This straw cutter is therefore constructed upon the best possible principle to cut on a cylinder—in fact no other can be used advantageously. Mr. Hovey, the patentee and manufacturer, we remember, was highly complimented in the scientific Report of a Committee of the last Fair of the Worcester Mechanics Institute.

The machines are kept for sale by Mr. J. Mayher, No. 187 Water street, New York.

IMPROVEMENT IN HOSE CARRIAGES.



This is an engraving of an improvement in Hose Carriages, invented by Mr. Joseph Pine, No. 158 Centre street, this city, and for which he has taken measures to secure letters patent. The carriage is made with a separate axle for each wheel D. Each axle is made with a sectoral rack F, on its inner end, which meshes into a central cog wheel G. The pole of the carriage is made with a rack J on its inner end meshing into the central cog wheel G. The wheels of the carriage cannot move but by the central cog wheel, and *it* only moves as directed by the pole of the carriage. The hind axles and central cog wheel are made and arranged like the front ones. The two central cog wheels are connected together by diagonal braces H H, which are secured to the under side of the central cog wheels G G

When the pole J, moves the front central cog wheel, the hind axles through the diagonal braces, are moved in unison with the front wheels. B B, are two plates, (there is one above and one below) between which the cog wheels and the racks operate and are retained. The outline of these plates are only shown in order to exhibit the mechanical arrangement. C C, are two bars or bolsters, in which are bosses through which pass the vertical pivots K K, which allow the axles to move freely. A A, are straight and eliptical bearer for the frame of the carriage. They are permanently secured—the straight sleepers to the bolsters C C, and the elliptical ones between the plates B B. It is evident that when the carriage is moving the wheels will always move in a line just as directed by the pole of the carriage. Its motion therefore over rough pavements is very steady, and for turning the corners of streets, or in a narrow circle with rapidity, it possesses great advantages, owing to the ease with which it can be managed by the pole. A large carriage built on this principle has given great satisfaction to the Hose Company in this city, for whom it was built.

The Electric Light.

The London Spectator, says that a "new claimant has come forward as the original inventor of the electric light in the person of a Mr. J. B. Lindsay of Dundee, Scotland. The Spectator acknowledges his claims. It seems that he publicly exhibited the electric light in 1835 and at that time declared that it might add the night into day. He can produce an intermittant stream, it shines without combustion, can be maintained equally without air in a sealed vessel, or in the open air, and is inextinguishable by wind or water." The light produced is a very brilliant white light. Light is contained in all the elements of nature. The Creator said, "let there be light and light was," and this before the sun was made. How different is the *light* thrown upon light, since the discovery of electricity. The galvanic battery produces the most intense artificial light of any other apparatus or process known, and also the most intense heat in the volatic arch. By the recent electrical experiments of Smee, we are approaching nearer to a knowledge of the hidden agency that induces combustion in our frames.

Splendid Achromatic Lenses.

The great Viennise optician and telescope manufacturer, M. Voigtlander, succeeded a few years ago in producing two achromatic lenses of thirteen inches in diameter, which give a perfect achromatic image, with a focus of only nine inches. These glasses, with an extensive and complete apparatus for producing scenic and pictorial effects, were brought to this country by the Messrs. Langenheim, brothers-in law of Voigtlander, who engaged the most eminent artists of Vienna to prepare a series of pictures representing the most striking features of the Alps. The great skill and scientific knowledge of Professor Grant of this city, were put in requisition by the Messrs. Langenheim, and preparations were made for bringing out a series of pictorial representations with the new apparatus. But at that time Professor Grant was called away by Government to proceed to the Gulf of Mexico to disinfect the United States ships in that quarter of yellow fever, and by a strange coincidence, the brothers Langenheim were called upon by their fellow countrymen in Vienna to participate in the struggle for freedom in that ancient citadel of despotism.

Messrs. Langenheim went to Europe, were active participants in the gallant but ineffectual struggle of the Viennese for freedom, and were thrown into a dungeon and kept for several weeks in hourly anticipation of death. At length, however, they were liberated, on the express condition of immediately leaving the country, never to return, and they forthwith sought again our friendly shores. They have now returned to this country and with Prof. Grant's assistance it is reported that the public will soon be treated to the sight of some panoramic scenes, that will far surpass any thing of the kind ever presented to the world.

These achromatic lenses aided by the power and brilliancy of oxyhydrogen light are to present panoramic seenes of the size and invested with every appearance of life and reality.

Telegraph.

We understand that the work of constructing the new telegraph line, between New-York and Buffalo will be commenced next week, and vigorously prosecuted to completion. It is reported that it will be completed and in working order as early as the 1st of Sept.

The British South Eastern Railway Company are about attempting to link London to Paris, by one continuous line of electric communication. The wire is to be laid along the bottom of the channel from Folkstone to Point Grinez. The distance is 20 miles, and the depth varies from 14 to 17 fathoms. The wire is stated to be covered with gutta percha treated with sulphur.

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NEW YORK, APRIL 14, 1849.

City Fountains.

The public works of a city or country, are justly held to be evidences of the taste and refinement of the people. In comparing the public works of our city, with a standard of correct taste viz., nature and association—the sublime and the beautiful, we have to lament the absence of the one and a splendid disregard to the other. In decorative art, our public buildings look as if their projectors and art had always resided in different hemispheres. Our public parks have made some pretence to ornamental embellishment in that line, but the taste displayed, compared with the law of association, is out of joint.

As much taste and as correct a knowledge of the law of harmony, can be displayed in the design of a fountain as in the design of a monument. There is no city in the world that is better adapted to exhibit a number of tasteful public fountains than the city of New York, but our public fountains have displayed a very inferior taste, as compared with the small fountains erected by many of our citizens to adorn the parterres in front of their mansions. We are glad to perceive that the Bowling Green uncouth rocky fountain is torn from its position. It was certainly a parget upon the character of our city. We hope it will be replaced by something of a tasteful character. It is extreme folly, and shows a great want of correct taste to introduce the rural or romantic into the scenery of a city.

——"How sour sweet music sounds,
When time is broke and no proportion kept,"

is as applicable to decoration as to music.—Water lilies around a fountain—are out of place. They remind you of the fen and the sedgey pond. Our city fountains should partake as nearly as possible of the character of life to harmonize with surrounding objects—the world of life around us. Spouting statues, singly in some cases, and in groups in others, would certainly be the most appropriate designs for our City Fountains.

Balloon Navigation.

We perceive that some of our contemporaries have wrongly construed our remarks concerning the *Revoiloidal Spindle Æriod*, exhibited in the Tabernacle. We certainly wish the inventors success, but in the present state of balloon science, we are willing to be denounced as *false prophets* if the *revoiloidal spindle* is ever propelled 50 miles from this city. It is nothing new for a spheroid of hydrogen gas to float in the atmosphere, nor is it any thing new for a balloon to be propelled by wings, in fact any person who is versed in the progress of inventions knows that it has been proposed to propel carriages on roads against the wind, by kites formed like the revoiloidal spindle. Let any person examine Hebert on Locomotion, and he will see the drawing of a carriage of this kind.—It is not possible for any person to to tell how swift a spiral fan wheel may propel a balloon in a still atmosphere. These things can only be decided by direct experiment. No person is able to tell the amount of resistance to a balloon of a certain form propelled at a certain speed through the atmosphere only by comparative reasoning. For example, if a balloon with all its appurtenances is of the exact bulk of the strata of air in which it floats, it must move with the air at the same rate of motion, hence if a resisting current of air—a wind—moving at the rate of 10 miles per hour meets it, the force to be applied to keep the balloon from being driven back—just to stand still—must be equal to propelling the balloon in an atmosphere at 0, at the rate of 10 miles per hour. The form of the balloon has nothing to do with this antethesistical deduction. To propel a balloon by a fan wheel, is just upon the same principle of propulsion, as the boys blow soap bubbles and feathers—the air impinging on the surface of the balloon. No invention is worth a snuff to the world now, unless it has economic advantages, and if it requires one pound of zinc to make 5 cubic feet of hydrogen gas, it will take $400 to fill a balloon with a sufficient quantity to float 7 persons, without any baggage whatever. To the scientific world, all new projects must be submitted to the *crucis experimentum*, men must "speak in deeds" now. We deny the possibility of the balloonists propelling their ærial vessels one mile through the air by a steam engine. Let them cure our scepticism by experiment, and then we will own that we were wrong. This is fair. It is no use to say that the inventors of steamboats met with opposition—and the jeers of sceptics. It is indeed wrong to condemn a new invention until it is fairly tried, we never do, but balloons have been tried and retried—they are older than the steamboat, and nearly a century older than the locomotive. If some power was discovered, that could in the space of a square foot and of about 100 or 200 weight, exert a propelling force of a 100 horse power, or far less than this, balloons would become fit carriers of news and passengers. This may yet be done, we cannot tell, but certainly we see no hope for ærial navigation in the present state of science, and so we leave this subject.

Dr. Locke's Electro Chronograph and Mr. Bond's Magnetic Clock.

A writer in the Tribune N. Y. of last Friday thus describes the difference between Prof Bond's and Dr. Locke's Electro Magnetic Clocks.

Mr. Bond's invention as defined as "a sideral clock which shall make its beats audible in New York, Washington, Cincinnati, &c., by insulating certain parts of the machinery and making the escapement itself the break-circuit key of the Telegraphic wires."

This arrangement does not propose to subdivide the second of time, and requires the astronomical observer to record his observations as usual by seeing and hearing a clock.

Prof. Locke's invention as defined by Mr. Walker is "a clock put in connection with telegraphic wires and with the Morse register, and which prints the hours, minutes and seconds on the filllet of paper; and by an observer's striking a telegraphic key at the instant of an occurrence, the date of it is recorded on the same paper to the hundredth of a second.

The clock, the Morse register, with its fillet of paper, and the observer with his key, may be any where in the circuit, separated thousands of miles. The observer neither sees nor hears a clock; he only sees the event and touches a key, when a permanent and unerring record of the observation is made. All this has been reduced to practice by Dr. Locke through circuits of a thousand miles of single distance and two thousand of conducting circuit.

Both Mr. Bond's suggestion and Dr. Locke's invention were reported to Congress by Dr. Bache and by Coast-Survey Assistant Sears C. Walker, communicated by Hon. Secretary R. J. Walker, and published in Document 21 of the last session. Congress prefered Dr. Locke's invention, and appropriated the means of carrying it into effect. It has been adopted by the Coast Survey, and National Observatory.—Mr. Bond may be disappointed, but has he any reason to complain? Dr. Locke's is new *in modo* and *in effecto*, while Mr. Bond's is new only *in modo*."

This puts a new face on the controversy, and points out the difference between the two inventions.

Planing Machines.

The article that appeared in the Scientific American, March 17, headed, "Improved Planing Machine," appears to be in a measure incorrect, not, however a fault of ours—and in conformity with the wishes of Mr. Allen, and also Mr. Joseph P. Woodbury, of Boston, we correct it, by saying that the work examined by us was accomplished by Mr. Woodbury's planing machine. We were led to suppose (as Mr. Allen exhibited the specimens of work to us,) that they were accomplished by his machine, and as it is our highest aim to do justice to all, we make this explanation.

Mr. Woodbury received a patent for his machine two weeks ago, and since his name appeared in our list of patents we have had a number of inquiries respecting its merits, its nature, and the principle wherein it differs from that of Mr. Woodworth. We have had information respecting its capacity from an eye witness, and we may be able to present an engraving of it in a few weeks, when we shall present all the facts of the case before our readers.

Advantages of the West for Manufacturing.

A series of articles has appeared in that able Magazine, the Western Journal, published at St. Louis, on the advantages of Bon Harbor on the Ohio River, for manufacturing purposes. Bon Harbor is situated on the banks of the lower Ohio, in Kentucky, and is owned by Messrs. Triplett and Barrett, the former a gentleman with whom we are acquainted, and who called on us last week on his way to Europe. The company own a tract of 2000 acres of land binding two miles of the Ohio, the upper part having a rock bound shore against which the current sweeps round in the bend of the river, Bon Harbor lying on the convex side. The rock forms a fine natural wharf, with water below it to float a ship of the line. Bon Harbor has a mine of gold in a vein five feet thick of the finest bituminous coal under it. It has also a cotton factory designed to accommodate 7000 spindles and 100 looms. The factory is well built, heated by steam and the machinery is driven by cheap steam power, for the coal costs but little. The factory is well arranged and well provided with every appurtenance and convenience. The company offer great inducements to people to settle in the neighborhood, and no lots are sold except to actual settlers, mechanics and workmen who purchase and build. The location is stated to be very healthy, above floods, and the country around it is very fertile—yielding an abundance of all the good things of this life. In looking over the map of the United States, we are struck with the position of Bon Harbor, considering all things, for manufacturing purposes—all kinds of manufacture. At the present moment, the manufacturers of Britain find it a losing business from the fluctuations in trade, and the great competition among their capitalists. A man with a small capital in England would sacrifice the whole of it were he to enter into manufacturing operations now—there is no opportunity there for men, but those of immense capital. Were her business men possessing a fair capital to consult their own interests, they would look to the land of the setting sun, pack up their duds and make this their home. There is one good object which our Western manufacturers are keeping in view, viz. the comfort and independence of their operatives. Unless this was so, we should say little about them but to find fault, but to provide comfortable houses, and to encourage the operatives to get houses and lots for themselves, is a point in civilization which no country but America knows any thing about. We cannot pay too much attention to these things, for it is an undoubted fact, that the skill of our people must increase with their intelligence and general independence. The West is yet to be (and is fast becoming,) the grand centre of the United States in Agriculture and the Arts.

Recovery of the Jewels Stolen from the Patent Office

The Jewels stolen out of the Patent Office have been recovered. They were found by officer A M. C. Smith in the house of a man named Henry B. Jones, No. 11 Pike st., this city. They were found last Thursday the 5th inst. As recovered there were of various sizes, 143 Pearls, together with three pounds of gold in bars, found buried in the cellar. One large bottle of Otto of Rose, containing nearly a quart, was also found. The original bottle had been substituted by the one found.—The scabbard of the sword which had been presented to Commodore Biddle by the Emperor of Russia, and a gold snuff box presented by the Emperor of Morocco, had been melted down into bars. The settings of the diamonds and pearls had been removed and deposited in a tin box. What a mutilation the rascals have been guilty of.

Four newspapers at Syracuse have declined "taking further news by telegraph," on account of the high prices charged, and the meagre accounts furnished.

California Houses.

In No. 112 Broadway this city may be seen a house standing in the inside of another, and all taken in at the door. This is not done upon the old mountebank principle of squeezing an egg into a vinegar bottle, but is a fair house and one too that is bound for the gold regions to shield the adventurous wealth seeker, from the night dews and rains of California's clime. The place mentioned above is a grand depot for all things of a California nature. There may be seen a hammock that can protect a man who buys it, although he may be like "the wonderful animal that can't live on the land and dies in the water." It is a bed and life preserver. There too may be seen a whole regiment of gold washers—but not in uniform—they are all in fatigue dress and each wears a different facing. We took an observation of the premises last week, and we must say that comment upon the merits of the different inventions, is out of the question. Some are good and others perhaps worthless. They were some more evidence to us (although none have better opportunities of judging otherwise) that the mechanical genius of our people is of the most varied, and energetic and original character.

A number of sheet iron houses have been constructed by Mr. Naylor of this city, and sent away to California. The sheets of iron are made with flanges, and with tongues and grooves to lap over and unite together firmly. The way in which they are put together makes them perfectly water tight. A right idea of their construction could not be conveyed in mere words, but they are not expensive—one almost 60 feet long and good width, costing only $200. The iron is all galvanized, so that it is perfectly weather proof. A number of wooden houses are exhibited here every day, but which is best or worst, is something beyond the ken of the present, and will only be best known hereafter to those who may use them.

More Coal on the Pacific Ocean.

A letter from a Bostonian at Acapulco, dated Feb. 5, states that an inexhaustible mine of coal has been discovered only a mile and a half from Acapulco. Thus, it seems that this important mineral, so essential in steam navigation, is found in abundance on the extended line of travel which has recently been opened by the acquisition and occupation of the Pacific coast by our people. Within a short time deposites of coal have been discovered at Cape Horn, and they are also known to exist at various points in Chili, and as far north as Vancouver's Island. With such resources on the Pacific coast of America, there is nothing to prevent the employment of steamers in our domestic commerce from ocean to ocean, which must ultimately bring into requisition and profitable employ, the largest steam marine in the world.

Steamboat Explosions.

Our Western waters are beginning to open the spring campaign, with their usual amount of steamboat murders. The Wheeling Gazette of the 31st ult. gives an account of the explosion of the steamer Virginia near that place, by which 10 were reported to be killed and 17 wounded. On the 25th ult. the steamer Defiance on her first trip below New Orleans exploded her boiler killing Mr. Macfarlane the first engineer, and three others, and wounding a number of the hands.

Back Volumes of the Scientific American.

A few more copies of complete sets of vol. 3 of the Scientific American may be had at the office, either bound or in sheets. Price neatly bound $2 75, in sheets suitable for mailing $2. Send in your orders early if you desire them filled for we have but a few more copies left, and the number is growing less every day.

Our London Patrons.

We are happy in being able to inform our English patrons that such arrangements have been completed with the London Patent Office that the Scientific American may hereafter be found there. Messrs. Barlow & Payne are agents at 89 Chancery Lane, and will receive remittances on account of the Scientific American from those who may desire to subscribe.

Terms—3 dollars per year and postage paid out of the United States.

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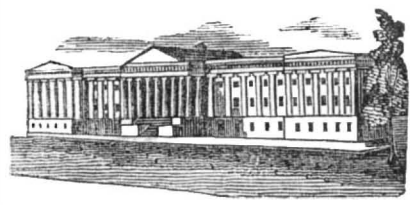

LIST OF PATENTS.

ISSUED FROM THE UNITED STATES PATENT OFFICE,

For the week ending April 3, 1849.

To J. Shaw, Jr. of Hinckley, Ohio., for improvement in Spectacle Frames. Patented April 3, 1849.

To J Cutts Smith, of Boston Mass., for improvement in Locomotive Baby Tenders. Patented April 3, 1849.

To J. Smith of Mansfield, N. J., for improvement in Reaction Water Wheels. Patented April 3, 1849.

To C. A. Spring and W. H. Derick, of Kensington Pa., for improvement in Planing Machines. Patented April 3, 1849.

To J. A. Richards and J. W. Wolcott, of Boston Mass., for improvements in Deep-Sea Diving Bells. Patented April 3, 1849.

To J. C. Howard, of Williamsburg, N. Y., for improvements in Rotary Engines. Patented April 3, 1849.

To H. C. Jones, assignee of H. Ritchie, of Newark N. J. for improvements in Bank Locks. Patented April 3, 1849.

To E. Webber and C. Hartshorn of Gardiner Me , for improvements in machinery for Turning Lasts, &c. Patented April 3, 1849.

To T. W. Allen and C. W. Noyes, of Greenbush, N. Y., for improvements in machinery for making iron Wheel Tires. Patented April 3, 1849.

To J. Ericsson, of New York City, for improvement of an auxiliary Engine in combination with the Condensing Pump. Patented April 3, 1849.

To W. T. Barnes, of Buffalo, N. Y., for improved Augur Stock. Patented April 3, 1849.

To J. J. and S. P. Cox, of Shippensburg, Penn., for improvements in raising and conveying Water. Patented April 3, 1849.

To E. Clark, of Rushville, Illinois, for improvement in Saws. Patented April 3, 1849.

To R. Daniels and A. G. Dewey, of Woodstock, Vt. for improvements in Machinery for picking Wool &c. Patented April 3, 1849.

To S. Pasco and E. Perry, of Cato, N. Y., for improvement in Boot Crimps. Patented April 3, 1849.

To W. A. Dodge, assignee of D. H. Chamberlain, Boston Mass. for improved Awl Haft. Patented April 3, 1849.

To S. Baker, of Portsmouth, N. H. for Machine for Paying Seams of Vessels. Patented April 3, 1849.

To J. Cumberland of Mobile, Ala. and W. W. Cumberland, of New Albany, Ind. for improvement in Lubricating Compounds. Patented April 3, 1849.

To F. S. Merritt of New York City, for improvement in Cooking Ranges. Patented April 3, 1849.

To J. F. Ostander of New York City, for Machine for Spherifying Bullets or Pills. Patented April 3, 1849.

To M. S Wheaton of Riga, N. Y., for adjustable Dam or Water Weir. Patented April 3, 1849.

To W. H. Jennison of New York City, for improved Gold Washer. Patented April 3, 1849.

To J. W. Bull of New York City, for Concentric centrifugal Gold Washer. Patented April 3, 1849.

To C. Hart and N. Washburn, of Rochester, N. Y. for improvement in cast iron Car Wheels. Patented April 3, 1849.

To J. Burt, of Tiverton, R. I., for double hinged Water Guard. Patented April 3, 1849.

To D. Pease, Jun. of Floyd, N. Y. for improvement in Hulling Machines. Patented April 3, 1849.

To D. M Smith of Springfield, Vt., for improved Bank Lock. Patented April 3, 1849.

To L. Treadwell, of New York City, for improvement in Brakes for Railroad Cars. Patented April 3, 1849.

To H. R. Worthington and W. H. Baker of New York City, for improved method of ensuring the action of the valves in Direct Action Pumping Engines. Patented April 3, 1849.

To. J. D. Sanborn of Bennington, N. Y. for improvement in Bedstead Fastenings. Patented April 3, 1849.

To H. T. Hyde of Troy, N. Y. for improvement in Carriage Springs. Patented April 3, 1849.

To S. Kendall, of Kalamazoo, Michigan, for improved Punching Machine. Patented April 3, 1849.

To M. S. Fife of Philadelphia, Penn., for improvement in Metallic Pens Patented April 3 1849.

To L. Scofield, of South Trenton N. J and E. Cooper of New York City, for combination of Ash Trap with Puddling and Reheating Furnaces. Patented April 3, 1849.

To. J. Bell of New York City, for improved Method of Mounting Porcelain Roses for Doors Patented April 3, 1849.

To. J. J. Richardson of New York City, for improvement in Straw Cutters (2 patents). Patented April 3, 1849.

Hydrophobia.

During the last two summers the fear of hydrophobia and the supposed prevalence of that disease have agitated the public mind to a very considerable degree. Much of this terror, however, is visionary. The danger of rabies from dogs is much less than is generalsupposed, and its cure, so far from being impossible, is comparatively easy. Such at least is the testimony of the two eminent surgeons, Blane and Youatt, who made this disorder their particular study. If the opinions of these distinguished practitioners were better known, there would, we feel confident, be less alarm upon this subject in the popular mind.

The first error they combat is that which says the disease may lie dormant for years.—Their observation, on the contrary, has established that rabies generally makes its appearance in man from three weeks to six or seven months after the bite. But one authenticated case is known where it was delayed for a twelve month. Frequently, however, owing to the popular terror of the disorder, persons bitten many years before, and who have enjoyed undiminished good health in the interval, become alarmed to such a degree that a nervous disorder is brought on, which some indviduals take to be hydrophobia—but which is only a sort individuals take to be hydrophobia, which disappears the moment the excited imagination of the patient is allayed.

The second error is, that the rabid poison enters immediately into the system in the same manner as the venom of a snake. On the contrary the virus remains stationary within the wounded part until excited to action by irritation there. While thus dormant, it is perfectly undecomposed, and does not enter into the circulation until its constant presence as a foreign body, renders the nervous fibre more irritable and susceptible of impression. Whatever are the principles of its action, the surrounding parts evince the pressure of a stimulus which usually first shows itself by a slight inflamation, attended with itching in the dog, which is denoted by the constant licking and even gnawing of the bitten part In man the attack is often commenced by an irritation where the wound was received, long after it has, to all the appearance, entirely healed.

The third error is that the disorder cannot be cured. Either cauterization or excision are certain to save life, if administered in time. They are, however, the only remedies which can be depended on, for though many pretended specifics succeed in some cases, they fail in others. The removal of the bitten parts is not necessary immediately, but is as effectual weeks, or even months after the wound was received, provided it takes place any time previous to the appearance of the symptoms, even after the wound is healed. This arises from the fact already noticed, that the poison frequently lies dormant. Yet, as it is impossible to tell at what moment the irritation may begin it is prudent to perform the excision or cauterization as soon as possible. The choice between these two must depend on the character and situation of the wound. Excision is as effectual, where it can be applied with safety, but great caution is necessary that the knife or blood do not communicate the poison. The actual cautery is an eligible remedy when the wound is of such a determinate form as to admit of its application. Caustics, however are preferable, and of these lunar caustic is the best It may be cut or scraped to any shape to suit the form of the wound. In case of extensive lacerations, or wounds difficult to be reached otherwise, liquid caustics may be applied with effect. As a physician would generally be called in, he could best determine the mode of application. The caustic gives less pain than other means, and, by removing the slough formed, it may be carried to any depth and to any extent, with the certainty of destroying the virus as it proceeds.

The fourth and last error is that the bite of a rabid dog invariably produces hydrophobia, sooner or later. The celebrated anatomist and surgeon, John Hunter, who was not accustomed to make assertions at random, says that out of twenty persons bitten by a mad dog, only one was infected; and Dr. Vaughan relates that between twenty and thirty persons were bitten by another dog, out of which number only one was infected. Youatt thinks that one in four might take the disease, but comparing several writers it is safe to believe that not more than one person in twelve or sixteen are troubled after the bite has healed, and they have done nothing to help themselves. Both Blaine and Youatt have been repeatedly bitten by dogs decidedly rabid, without any dread whatever, their experience having taught them the absolute certainty of the preventive means. Youatt says that when he has been overfatigued or out of temper he has sometimes felt an itching and throbbing in some of the old sores, and they have become red and swollen, without any further inconvenience.

It follows from this that the bite of mad dogs may be regarded as comparatively harmless; for the person thus unfortunate has a more certain cure than one attacked by the ordinary diseases which we meet without terror.

[The above is selected from Neal's Gazette, an excellent paper. It presents some peculiar views upon this subject, and as hydrophobia is a singular and dangerous disease, we like to present as many views upon the subject as we can. Of one thing we are confident, were there fewer of the canine species abroad, there would be less cases of this disease. We are also positive, that where there is one dog needed, there are 99 useless pests.

On the Freezing of Alcohol.

In a recent lecture at the Sorbonne, M. Despretz attempted the coagelation of alcohol. To effect this, he plunged into liquid protoxide of nitrogen a thin glass tube, containing a few grammes of alcohol. The whole was suspended in a small vessel, at the bottom of which was placed a paste, composed of solidified carbonic acid and ether, the concave cover of the vessel being also filled with the same paste. The whole was then placed under the receiver of an air-pump, and vacuum formed. The alcohol soon acquired a marked viscidity, and lost some part of its transparence. At a subsequent lecture, the experiment was repeated, with an apparatus composed of two concentric cylinders, the interiors of which were filled with the above mentioned paste. The double cylinder enclosed on each side the tube containing the protoxide, and that containing the alcohol. The whole was then submitted to the action of the air-pump. When the refrigerating substances were considered to have been almost volatilized, the tube containing the alcohol was drawn out and placed in a horizontal position. The surface of the liquid remained for several moments perpendicular to the axis of the tube ; the alcohol then slowly regained its fluidity.

" I consider—and all those who witnessed the experiment," says M. Despretz, " that the upper layer of alcohol was solidified, and that the whole mass would have been solidified had the experiment continued a longer time." In this experiment the liquid remained limpid. The same alcohol, exposed to the action of a current of the protoxide, at the moment of its escape from the apparatus of Notterer, assumed a very viscous appearance, but the surface did not become fixed as in the other experiments. The want of a further supply of the liquid protoxide prevented following these investigations further.

Capacity of the West.

The great Illinois Coal Basin, has an area of 75,000 square miles, but it is perhaps of no immediate value except at its edge or outcropping; and then only where it is easy of access and in wealthy positions. The Ohio cuts this edge on the west, near the mouth of the Trade Water in Kentucky, and the Saline in Illinois, and on the east between the mouths of Deer Creek and Anderson River. At the western edge the coal has been washed out for several miles on either side of the present banks of the river; these banks are subject to overflows, and as a consequence, the country is subject to malarious diseases, and for many years to come will not be attractive to a manufacturing population.

Between these two points on the Ohio is another stratum of coal, near Owenboro', which is supposed to be another and interior basin, the edges of which have been washed away except in a few isolated hills.

The upper or eastern edge of the lower basin presents a section of coal, averaging from three to ten feet in thickness and about four miles wide above the plane of high water : it is cut by the Ohio at about the centre of Perry County, Ind. and Hancock County, Ky. The " dip" is about 50 feet in the mile and on the Indiana side is toward the river, so that the mines are self draining. From this point its line is slightly curvilinear and extends in Indiana, through a rolling and fertile country, about 150 miles to the State line in Vermillion County, being cut by the Patoka, East and West Fork of White-Wabash and Coal Rivers.

Here, then, in a State which now contains nearly one million of people, chiefly engaged in agricultural pursuits, are 900 square miles of power; each square mile giving an average of over 125,000,000 bushels of coal, of a far better average quality than that which has so enriched the manufacturers of England and Belgium.

Over and on either side of this line of power are the richest ores of iron, and in all probability of lead and copper, while directly underlying the coal, are thick beds of the best fire and potters' clay. Except on the alluvials of the White and the Wabash Rivers, no country contains more elements of health.

A Great Man in His Line.

" One of these products of ingenuity and perseverance" says the Renfrewshire Reformer (a Scottish exchange) which astonish ordinary persons, has been exhibited by John Munro of Paisley.

This individual, who was apprenticed to his uncle as a tailor, had a taste for drawing, and as he grew up he could find no better vent for artistic " darning" skill than in designing and executing a most elaborate and beautiful counterpane in cloth. There have been employed in the making of this counterpane 3570 pieces of cloth, of various colors; and not only are there in it curious combinations and contrasts of patchwork, but portraits of theatrical heroes and heroines painted and bedizened in their stage finery,—views of ships on several tacks, the rigging of which was executed in silk,—and a variety of animals. Despite the novel and limited means which the humble artist had at his command to produce his effects, he has succeeded in giving to his cloth paintings a vigor, brilliancy, and beauty which are really remarkable. Mr. Munro devoted to this specimen of his abilities all his spare hours for eleven years and four months.

Dreams.

An English writer says that lively dreams denote nervous action ; soft dreams, slight irritation of the brain, often a nervous fever approaching a favorable crisis ; ugly dreams, determination of blood to the head ; dreams about blood and red colored things, an inflammatory condition ; dreams abort rain and water, disease of the mucous membrane and dropsical affections ; dreams of distorted forms abdomnical obstruction and disease of the liver ; dreams of any particular body, of disease in that part ; and dreams of death, the approach of apoplexy, and determination of blood to the head.

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TO CORRESPONDENTS.

"A. L. A. of Geo."—We cannot publish the receipts at present. Every painter mixes his paints till he gets the shade to suit him. You will desire a drab, as all other colors, but white or yellow, are out of the question for beauty. Drab is made of a color called calcymine, mixed with oil; this is the best you could use. Yellow is made with chrome mixed with oil; this looks well if green blinds are used. Drabs of various shades may be made by mixing yellow, brown, Venitian red and lampblack together.

"W. N B. of Me."—We do not know of any machine patented for the purpose you set forth. Patents cannot be obtained for an application to any purpose but the combined machinery that produces the results in a different manner from other machines.

"J. Y. of La."—By some oversight your letter was mislaid. We do not wish to continue the discussion on the source of animal heat, as it is not so pointedly interesting to others for the fact of the heat makes no difference to man from whence it is derived, so as the system is provided with it. We do not know how you implicate us with a doubt of heat being in the atmosphere. Heat is derived from two sources, combustion and friction. If you give the subject more attention your views will be modified, and if you do not agree with us exactly you will we are sure come nearer to us. The experiments of Mr. Smee is developing something that has engaged our mind for some time.

"S. W. B. of Pa."—We are unable to inform you of the residence of Aldrich & Foot. Would gladly do so if possible.

"R. R. of Geo."—Your draft came safe.—We shall attend to shipping the machinery, &c. as soon as we can get the little matters finished.

"J. S. P. of S. C."—Your draft for $30 is received. As soon as your model arrives we shall proceed with your business. Your description will be sufficient to give us an insight into the principles.

"W. H. P. of Mass."—You had better forward your model as soon as possible. We accidentally found out that a Mr. C——, of a neighboring town had been endeavoring to ascertain the principles of your machine, in hopes of robbing you of the benefit likely to arise from it. We felt it our duty to inform you—look out, for he is a pirate and will take it from you if he can.

"R C J. of Mo."—Your machinery, viz one steam engine, four circular saws, one planing machine and stave dresser and jointer, were duly shipped yesterday, via New Orleans, and we have forwarded the bills of lading this day. Your draft was promptly honored by Messrs. P. H. & T., and a balance of $23 50 remains credited, subject to your order. Particulars in answer of this date.

"E. B. of Ky."—Letter and funds received—papers forwarded. Send on that list of names as soon as convenient.

"Mrs. L. of N. Y."—Your apparatus is certainly very novel and convenient. We are glad that you have struck upon a good idea, for our gallantry would not allow us to discourage the inventive genius of the ladies.—They should understand the wants of this department much better than gentlemen. You have really obtained the advantage this time. Shall we hear from you again—all confidence here, assuredly

"A. P. of Mich."—Your communication of the 31st ult. came safe. W. H. Ranlett, of this city, is publishing a valuable work on Architecture in monthly numbers at 50 cents each. We regard it as an excellent work and no doubt it would answer your purpose.

"M. S. Jr. of Vt."—The model which you sent to us sometime since has been examined and found to represent nothing new that is patentable. You can draw upon us for $25 whenever you please. A letter has been sent you explaining the whole matter but not having heard from you we fear our letter to you or yours to us, has been miscarried.

"I. C. of Plattsburg N. Y."—On the 24th ult. we sent you some documents for signing, since which time we have not heard from you, where are you? It is for *your* interest that you attend to returning those papers early, not *ours*.

"N. K. of Va."—We have examined the drawings of your Scraper and Tree; we do not think letters patent could be obtained for either. Trees for working horses, of unequal strength have been long known to our "Yankee Farmers," combining the same principle of yours. There is not sufficient novelty in the scraper to warrant an application—the difference between yours and the common scraper in general use, is so slight that we think no claim could be made upon it, we advise you not to spend any money, in attempting to secure them; make and sell all you can, there is no danger of an infringment upon any others in use.

"G. W. L. and H. D. W. of Pa." "J. E. W. of St. Louis." "C. D. F. of Ct." "H. F. R. and S. M. C. of N Y."—Your specifications have been forwarded with drawings and models to the Patent Office.

"R. and P. of Ct."—As soon as your model is received from Washington we will advise you by mail.

"S. A. P of Ms."—The article which you order is not what you describe as wanting. It is a beautiful thing but has not all the improvements named in your letter.

"J. G. J. of Me."—Your letter containing $10 was duly received, which amount has been placed to your credit in account.

"M. M. R. of Michigan."—We would advise you to spend no more money and lose no more time by your experiments. You will never gain any power that way whatever. The air must be forced in some way and that same force might be more profitably applied direct.

"E. B. W. of N. H."—We are not aware of any machinery such as yours for making spikes. We do not see any thing in the way of securing a patent.

"J. H. of Ms."—The addition has been made to your specification in accordance with your suggestion.

"W. W. R. of N. H." "H. D. P. of Pa." "R. S. T. and N. B. C. of N. Y."—Your specifications and drawings are being executed this week and we shall forward your documents for signing in a few days.

"S. G. of N. Y."—You have been answered by mail. "T. B. of N. Y."—Yours just received.

"A. G. of Mass."—Your specification has been forwarded for signatures. Please sign the documents and return it to us as early as possible.

"A. D. & Co. of New London."—Your check of $60 was duly received. The specification has been sent to Columbus, Geo., for signatures.

☞We would respectfully remind our correspondents that all communications must be post paid in order to insure prompt attention. Postmasters are authorized to frank letters containing money, or upon any matters having reference to the business of this office.

To Our Subscribers.

We would respectfully remind those who are now receiving their papers in single wrappers that if they will exert themselvess a little and obtain two, three or more, (the more the better) names with their own, it will render their paper less liable to loss and damage, through the mails. We are obliged to fold the papers for single wrappers in the smallest possible compass, and the post office clerks are more liable to overlook them in their hurry than they would if the wrapper contained three or more papers. Our subscribers, however, have always manifested a deep interest in the circulation of the Scientific American, believing it to be the best publication of the kind in the country, and if it merits this high compliment, to its subscribers belong the honor of making it so. If you ask why; we answer by saying that no person reads it, until he has paid in advance for it, a compliment which we are proud of paying our readers. We believe that our old patrons will continue, and we depend upon their generous aid to extend the circulation.

The engraving published in No. 27 Scientific American of John Wiley's machine for boring window blinds, refers to his residence at New Orleans. Since that time he has removed to South Reading, Mass., where all communicatiohs should be addressed.

Advertisements.

Patent Agency.

☞ From our long acquaintance and experience in Patent Office business we have no hesitancy in asserting that we are better able to judge the merits of new inventions, and are better capable of advising upon all subjects pertaining to Patents than any other concern in the United States.

Any business connected with the Patent office may be done by letter through the Scientific American office with the same facility and certainty as though the inventor applied in person. Our prices too (another important consideration to inventors) are but about half as much as the charges of most agents as the amount of business which we do, and that in connection with the publication of the Scientific American renders to us superior advantage over all other agents.

Having been often complimented by those who have entrusted their business in our care, we here repeat what very many have said. "The best Patent Agency in the United States is at the Scientific American office"

All models, drawings or communications that are sent to the Scientific American office for inspection are deposited from the eyes of the public until the necessary application for securing the invention has been made.

The best of artists are constantly employed to make drawings from models and our corps of specification writers are composed of gentlemen formerly connected with the Patent office at Washington as Examiners.

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Also, we have an excellent 2 1-2 horse power engine complete with boiler, connecting pipes, pump, &c. which we will sell and pay expense of boxing and carting to any pier in New York for the small sum of $275. It is a beautiful piece of machinery and worth $400. The boiler is a horizontal one and of proved strength. Terms cash.

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OLIVER SNOW & CO.

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Augusta, Maine, Oct. 28, 1848. o28 1y

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Concord, Mass. j20 tf

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a7 tf JOHN L. PEAKE.

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BEACH, BROTHERS, Sun Office.
m31 tf corner of Nassau and Fulton sts.

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j27 tf

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Consulting Engineer and Counsellor for Patentees.

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For the Scientific American.

Poisonous Acids.—Hydrocyanic Acid.

This terrible acid is well known under the name of Prussic. It is colorless, very volatile, inflamable, and has an odor like that of bitter almonds. Its taste is first cool, then hot and disagreeable It is the most energetic poison known. One drop will destroy the life of an animal of considerable size. The chemical tests of this acid are nitrate of silver, sulphate of copper, protosulphate of iron and hydrosulphuret of ammonia. By treating hydrocyanic acid with the nitrate of silver, the cyanide of silver is formed, which by simply heating in a glass tube yields cyanogen gas, which burns with a blue flame. Sulphate of copper when added to a fluid containing hydrocyanic acid made alkaline with potass, gives a greenish precipitate, which becomes nearly white with the addition of more hydrochloric acid, the precipitate then being cyanide of copper Lassaigne says that this test will detect hydrocyanic acid when only one part is dissolved in 20,000 parts of water.

When a solution of protosulphate of iron is added to a liquid containing hydrocyanic acid rendered slightly alkaline by potassa, a grayish green precipitate is produced which on adding diluted hydrochloric acid, or sulphuric and agitating them, prussian blue is precipitated. This is a beautiful test, it is free from every objection and it will act in cases, says Noad, where the nitrate of silver gives no precipitate. Liebig says respecting this fearful poison, that "its rapid action on the blood is very remarkable. Comparatively large quantities of the acid in aqueous solution may be taken into the digestive apparatus without producing any very perceptible noxious effects, while the same quantity inhaled as vapor, causes immediate death. Thus a cat can bear the administration of from two to three drops of anhydrous hydrocyanic acid diluted with from four to six ounces of water, without being the least affected with it. If two drops of the anhydrous acid be inserted into the mouth of the cat, taking care to prevent it from breathing by stopping its mouth and nostrils, no perceptible effect is produced, but the animal dies the very instant that it is permitted to breathe whenever the vapor of the acid gets into the lungs." Mr. Taylor says that one grain of anhydrous hydrocyanic acid will destroy life, and some say that even seven-tenths of a grain might destroy life.—The largest dose from which an adult has been known to recover, is one grain and a third of anhydrous acid. The acid of commerce differs much in strength, as it is easily decomposed in close vessels, and there is a great difference in the strength, owing to where and how it is prepared. This acid is much employed in the form of prussiate of potass, to give cotton, silk and woolen goods that beautiful blue color so well known. Its employment in the dye shop and the color house cannot but be injurious to the health of operatives. Little do those know who flaunt gaudy colors, at what sacrifice they are produced—that every mazarine blue dress contains the elements of one of the most virulent of all the poisons.

(*To be Continued.*)

To Paste Lithographs on Muslin.

Wet the muslin and stretch it on a frame until it is dry. Wet the lithograph with weak gum water on the back side in an evenly manner with a large soft brush, this must be done very nicely, and then let it dry. Take some very fine flour paste and brush it over the muslin, and then put on the lithograph.

The gum will prevent the paste striking through the print, which would injure it, some prefer fine gum to glue, and to it we give the preference, but glue is the common article used.

Heat applied to all metals but platina reduces them to liquids.

To Restore Stained Linen.

Rub the stains on each side with wet brown soap. Mix some starch to a thick paste with cold water, and spread it over the soaped places. Then expose the linen to the sun and air: and if the stains have not disappeared in three or four days, rub off the mixture, and repeat the process with fresh soap and starch. Afterwards dry it, wet it with cold water, and put it in the wash.

To Restore Scorched Linen.

If linen has been scorched in ironing, and the mark did not go entirely through so as to damage the texture, it may be removed by the following process:—take two onions, peel them, slice them, and extract the juice by squeezing or pounding. Then cut up half an ounce of white soap, and two ounces of fuller's earth, mix with them the onion-juice and half a pint of vinegar. Boil this composition well: then spread it, when cool, over the scorched part of the linen, and let dry on. Afterwards wash out the linen.

To Whiten Linen.

Cut up a pound of fine white soap into a gallon of milk, and hang it over the fire in a wash kettle. When the soap has entirely melted, put in the linen, and boil it half an hour. Then take it out; have ready a lather of soap and warm water; wash the linen in it, and then rinse it through two cold waters, with a very little blue in the last.

[The above receipts we copy from an exchange; they have appeared in a number of papers—taken out of McKenzie's Receipts—and are at least 50 years behind the lighthouse. 1st. The best way to take iron stains out of linen is to dip the stained parts in a solution of oxalic acid for about 10 minutes and then wash out in warm and finish in clear cold water. Twenty minutes will complete the operation. All other stains except grease, (which can be removed by simple washing) must be bleached. This is done by steeping the linen after it is washed in a clear solution of the chlorate of lime or potash, for a few hours, taking care that none of the linen is above the liquor, then take out the linen and wash it, then put it through some clear water slightly soured with sulphric acid, when it should be afterwards washed well and run lastly through a tub of clear cold water with a little blue in it, then rung out and dried. These stuffs and this process, have shortened the old way of bleaching green goods, from 4 months, to 1 day, in fact to a few hours. 2d. Scorched linen and onions and vinegar, &c. Well that is enough to make any good housewife shed tears, and especially when they would find out that the vinegar had destroyed all the virtue of the soap, by destroying the equilibrium of union between the potash and tallow, of which soap is composed. Scorched linen is a burned piece and the best remedy if only singed, is to wash in white soap, then rinse and treat with a little oxalic acid as mentioned above.

3d. To whiten linen there is no use of the milk—the boiling of the linen is a common practice to whiten, every person knows that. The grand thing about whitening linen, is to use clean water, plenty of good soap and take out all the grease, and be sure to wash all the soap out of it. If this is not done the linen will be full of yellow streaks. In some places of our country the water used for washing may contain some iron, and cause new linen soon to lose its color. The best remedy for this would be to sprinkle a little of the flour of lime in the water for rinsing, and let it settle and use the clear. The lime will precipitate all the iron in the water.

We have made these remarks on the above, believing that they will be of use. The highest aim of science should be to enter every household, and where is there a more beautiful department of science than that of Domestic Chemistry, and it is a department that has been and is too much overlooked. We want some Mrs. Somerville to take up this subject and present to the women of the world a book to let them know the why and wherefore of domestic phenomenon—the science of the cottage, the kitchen, the hall.

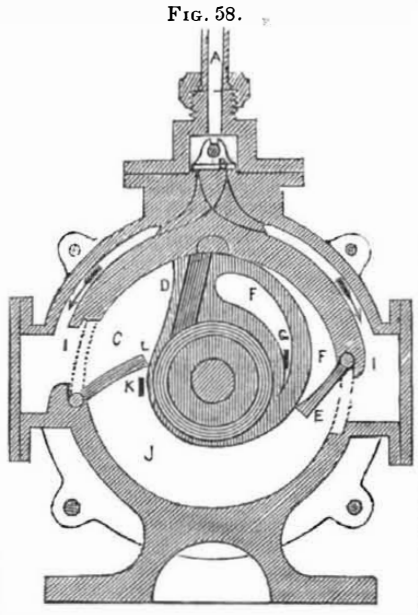
Water commonly expands when converted into steam to 1700 times its bulk.

History of the Rotary Engine.

Prepared expressly for the Scientific American.

FRENCH ROTARY ENGINE.

FIG. 58.



This rotary engine is the invention of M. M. Pierret, and Morel, of Paris, and it is essentially like James Watt's second rotary engine. Yet this engine was considered a few years ago to be *the grand* discovery in rotary engines.

A, is a steam pipe. The steam is directed by the side valve B alternately into the courses as indicated by the arrows. Supposing the steam to be admitted into the chamber C, it would act upon the arm of the piston D and force it round in the direction of the valve C, at the same time exhaustion is going on in the chamber F F, through the aperture G, but when the point of the piston has come to the end of the valve L, that valve is closed, as shown by the dotted lines, and the instant it has passed the point of the valve L, it falls upon the face of the piston D, and the steam being then admitted renews the pressure on the surface of D. A condenser accompanied this engine and to make it more complicated, it had a fly wheel, the very thing that other rotaries have endeavored to avoid.

For the Scientific American.

Useful Problems.

1. One end of a lever is 15 feet in length, and the other, 6 feet and 9 3-5 inches; what power must be applied to the longer end to balance a weight of 225 pounds at the shorter end?

2. What must be the diameter of a wheel by which a weight of 75 pounds suspended by a rope going round an axle whose diameter is 12 inches, is balanced by a power of 8 pounds?

3. A pendulum, which vibrated seconds at the level of the sea, when taken to the top of a mountain, was observed to vibrate only 3587 times per hour; what was the height of that mountain?

4. It is found by observation, that an eclipse of one of the satellites of Jupiter is seen 16½ minutes sooner when the earth is nearest to that planet, than when most remote; required the rate at which light travels?

Uses of the Black Currant.

The Black English Currant is represented to have qualities that entitle it to extensive propagation. A kind of wine has been manufactured from it, which is celebrated for its medicinal properties. "It has all the good properties of the best Port, without any of its heating or constipating effects. In sore throat it has, for many years, been considered almost a specific remedy." From the black currant a jelly is made, of considerable medicinal efficacy. The jelly has been highly recommended for disorders of the throat, and as a necessary article in the stores of ships sailing to the East Indies. A liquor is prepared from the black currant, which, is possessed of great medicinal efficacy in obstinate coughs, &c. The currants for this purpose are bruised, and, being placed in a jar, whiskey or any other species of alcohol is poured over them; the jar is covered close for a fortnight; after this, the liquor is strained and bottled.

A cubic foot of water weighs sixty two and a half pounds.

LITERARY NOTICES.

We have received the April number of the Pictorial National Library, and we hope the publishers will remember that we are constant readers of it. We regard it as a sound and instructive journal. Its contents are perhaps more varied and useful to the reader than that of almost any other monthly now published,—not light and romantic, but solid and real, abounding in interesting historic, scientific and biographic sketches, illustrated by well executed wood engravings. Wm. Simonds & Co. proprietors, Boston, Mass.

The Banker's Magazine and State Financial Register, for April, is on our table. It is published in Baltimore, Md. and edited by by J. Smith Homans and Edwin Williams.—Contents: Baron Humboldt on the production of gold and silver; Legal Miscellany—Bank Bonds; The Southern Bank of Kentucky; Circular of the Directors of the Louisiana State Bank; Bank Statistics—Ohio; Estimates of the Crops of the U. S. 1847 and 1848; Ansted on the future supply of Gold; Foreign Opinions upon the discoveries in California; Remarks on the public debt of New Orleans; The Gold Regions of California and Russia; American Stocks in Europe; Bank Items; New Banks; New Appointments, &c.; Legislative Report upon the failure of the Canal Bank; Review of the month; Miscellaneous Items; Stocks and Exchanges at New York, Philadelphia, Boston and Baltimore. We should think this a valuable publication for business men and others desiring a knowledge of the financial condition of the country.

"Aurora Borealis," is the title of a new weekly journal published in Boston and edited by J. F. Kelly, jr., favorably known in this city as the "Falconbridge" of the Spirit of the Times" We congratulate the Boston readers that they have so humurous and excellent a writer among them, and we trust that his association with the "Aurora" will not only prove profitable to himself, but equally so to his readers.

The New York Organ, published by Oliver & Brothers, is a very excellent family paper, and deserving a wide circulation. Its columns are devoted to pure literature, temperance, education and sound morality.

The Southern Cultivator, published at Augusta, Georgia, is one of the best monthly journals on Agriculture, and other useful information too, in our country.

The London Patent Journal and Inventors Magazine, published by Barlow & Payne, is the best Magazine of the kind in Europe.

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